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FAUNISTIC NOTE

First records of three rare spider species (Araneae) from Chisinau new to the Republic of Moldova: *Liocranoeca spasskyi*, *Marinarozelotes manytchensis* and *Oecobius rhodiensis*

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Abstract

This study documents the first records of three rare spider species from the Republic of Moldova: *Liocranoeca spasskyi* Ponomarev, 2007 (Liocranidae), *Marinarozelotes manytchensis* (Ponomarev & Tsvetkov, 2006) (Gnaphosidae), and *Oecobius rhodiensis* Kritscher, 1966 (Oecobiidae). Specimens were collected in Chisinau during 2023–2024 through manual sampling and pitfall trapping at three sites. The findings substantially extend the known distribution ranges of the species. The record of *O. rhodiensis* represents the first national record of the family Oecobiidae in Moldova. Ecological data, including microhabitat descriptions and meteorological parameters, are provided for each site. Records of mature specimens also extend the known phenological periods for these species. The results contribute to the faunistic knowledge of the region and highlight Moldova's potential as a biogeographic corridor for Eastern European spider fauna.

Keywords

Aranei, Botanical Garden, Institute of Zoology, new record, synanthropic, urban green area.

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The Republic of Moldova, situated at the intersection of Central and Eastern Europe, remains poorly studied in terms of spider diversity. Based on the recorded species, its fauna exhibits considerably lower species richness than that of neighboring Romania and Ukraine (Vasiliev and Mikhailov 2023; Nentwig et al. 2025). Moldova's location between temperate, steppe, and sub-Mediterranean zones suggests a potential role as a faunal corridor. However, its biogeographic significance is still insufficiently explored.

The genus *Liocranoeca* currently includes six species worldwide (WSC 2025), four of which occur in Europe (Nentwig et al. 2025), one in Iraq, and one in the United States. Two species, *Liocranoeca emertoni* (Kaston, 1938) and *Liocranoeca striata* (Kulczyński, 1882), were transferred to the genus by Wunderlich (1999). *Liocranoeca spasskyi* Ponomarev, 2007 was first described from the Rostov region, Russia (Ponomarev 2007), and is associated with semi-arid habitats and may favor moist or saline microhabitats (Ponomarev 2008; Ponomarev et al. 2018).

The genus *Marinarozelotes* includes 23 recognized species, 18 of which are found in Europe (Nentwig et al. 2025; WSC 2025). It was established in 2020 (Ponomarev and Shmatko 2020) following a revision of the genus *Trachyzelotes* Lohmander, 1944. *Marinarozelotes manytchensis* (Ponomarev and Tsvetkov 2006) was originally described from the Rostovskii Nature Reserve in Rostov region, Russia.

The genus *Oecobius* Lucas, 1846 includes 93 species worldwide, 41 of which are endemic to the Canary Islands. Only six species are currently known from Europe (Nentwig et al. 2025; WSC 2025). Many *Oecobius* species are synanthropic and are commonly referred to as "wall spiders" due to their occurrence on walls and windowsills. *Oecobius rhodiensis* Kritscher, 1966 was described from the island of Rhodes, Greece (Kritscher 1966).

The aim of this study is to document the first records of three rare spider species in the Republic of Moldova: *Liocranoeca spasskyi*, *Marinarozelotes manytchensis* and *Oecobius rhodiensis*.

Material collection

Specimens were collected in Chisinau, Republic of Moldova (Fig. 1; Table 1). Manual sampling was performed in 2023 at the Institute of Zoology, Moldova State University. In 2024 sampling took place at the "Alexandru Ciubotaru" National Botanical Garden (Institute), Moldova State University, using pitfall traps placed in two sites: (1) meadow vegetation near the lake and (2) undergrowth of a birch plantation (Fig. 1; Table 1).

Table 1. Coordinates of spider sampling sites in Chisinau.

Sampling sites		Coordinates
"Al. Ciubotaru" National Botanical Garden (Institute), Moldova State University	meadow vegetation at the lakeshore	46°58'37.5"N 28°53'12.1"E
	birch plantation	46°58'26.0"N 28°53'08.5"E
Institute of Zoology, Moldova State University	around the window frame inside the first-floor room	46°59'55.3"N 28°49'07.6"E

Figure 1. Two sampling sites in the National Botanical Garden (Institute): **A** meadow vegetation near the lakeshore, **B** undergrowth of a birch plantation

Five pitfall traps were arranged in a line with 2 m spacing. Each trap consisted of a 500 ml plastic cup (height 15 cm, opening diameter 9 cm) filled to half its volume with a 5% formaldehyde solution. The traps were active from March to November 2024 and emptied monthly.

Microscopy and imaging

Microscopic photographs of the general habitus and copulatory organs were obtained using an Olympus SC 100 digital camera mounted on an Olympus SZX 16 stereomicroscope. Images were processed with Olympus Stream Basic software. Multiple focal planes were merged into extended depth-of-field stacks using Zerene Stacker.

Meteorological data

Meteorological parameters were obtained from the State Hydrometeorological Service of the Republic of Moldova. Data correspond to the Chisinau monitoring station (47°00'00.0"N, 28°54'00.0"E, elevation 168 m).

Botanical data

Vascular plant data were used to characterize vegetation structure at the sampling sites. Most species were identified in the field; uncertain taxa were collected and verified in the laboratory using herbarium material and standard botanical keys.

Liocranidae Simon, 1897

Liocranoeca spasskyi Ponomarev, 2007

Figure: 2 A–D

Material examined: Republic of Moldova, Chisinau Municipality, Chisinau, "Al. Ciubotaru" National Botanical Garden (Institute); pitfall traps in meadow vegetation at the lakeshore (Fig. 1A), 6 June–7 July 2024, 1 ♂ (specimen code M599).

Distribution: Previously recorded in Russia (Rostov, Astrakhan, Volgograd regions; Krasnodar and Stavropol provinces; Dagestan; North Ossetia–Alania) (Ponomarev 2007, 2022), Ukraine (Donetsk, Mykolaiv, and Kherson regions) (Polchaninova and Prokopenko 2017), and Bulgaria (Plovdiv region) (Naumova and Genchev 2022).

Remarks: The site represents a lakeside meadow habitat (Fig. 1A), forming the undergrowth of solitarily planted *Salix alba* L. and *Fraxinus excelsior* L. trees (15–20 m tall, trunk diameter up to 40 cm). The shrub layer (approximately 2 m tall), consists of *Acer tataricum* L., *Ligustrum vulgare* L., *Rosa canina* L., and *Swida sanguinea* (L.) Opiz. The vascular plants vegetation within a 5 m radius around the pitfall traps has a projective cover of 40–60% and included the following plants: *Arctium lappa* L., *Bromus arvensis* L., *Dactylis glomerata* L., *Daucus carota* L., *Dipsacus sylvestris* Huds., *Galium aparine* L., *Geum urbanum* L., *Elytrigia repens* (L.) Nevski, *Inula helenium* L., *Lamium maculatum* (L.) L. *Phalacroloma annuum* (L.) Dumort., *Phragmites australis* (Cav.) Trin. ex Steud., *Poa angustifolia* L., *Ranunculus auricomus* L., *Stellaria media* (L.) Vill., and *Taraxacum officinale* Wigg. The site was characterized by the following parameters during the sampling period: average 23°C air temperature, 31°C soil temperature, 57% relative humidity, and 98.6 mm total precipitation.

Gnaphosidae Banks, 1892

Marinarozelotes manytchensis (Ponomarev & Tsvetkov, 2006)

Figure: 2 E–I

Material examined: Republic of Moldova, Chisinau Municipality, Chisinau, "Al. Ciubotaru" National Botanical Garden (Institute); pitfall traps in a birch plantation (Fig. 1B), operated between 9 May and 7 June 2024, 1 ♂ (specimen code M563); meteorological data: average air temperature 18 °C, soil temperature 23 °C, relative humidity 53%, total precipitation 81.4 mm; meadow vegetation at the lake edge (Fig. 1A), pitfall traps, operated between 7 July and 9 August 2024, 1 ♀ (specimen code M603); meteorological data: average air temperature 26 °C, soil temperature 31 °C, relative humidity 47.5%, total precipitation 55 mm.

Distribution: Previously recorded from Russia (Orenburg, Rostov regions, Stavropol province, Dagestan) (Esyunin and Tuneva 2020; Ponomarev and Shmatko 2020; Ponomarev 2022) and Ukraine (Zaporizhzhia region) (Polchaninova et al. 2021).

Remarks: The sampling site within the planted birch grove represents the undergrowth of the silver birch (*Betula pendula* Roth) grove with a crown density of approximately 80% (20–25 m tall, trunk diameter 30–40 cm. The second tier consists of undergrowth of *Juglans regia* L. and *J. nigra* L. Shrub layer (2–3 m tall), contained *Acer platanoides* L., *Cerasus avium* (L.) Moench, *Swida sanguinea* (L.) Opiz and *Amorpha fruticosa* L. Because the grove was planted on a west-facing steppe slope, the vascular plant vegetation within a 5 m radius of the pitfall traps, with projective cover of 90–100% dominated by mesoxerophilous *Poa angustifolia* L., *Elytrigia repens*

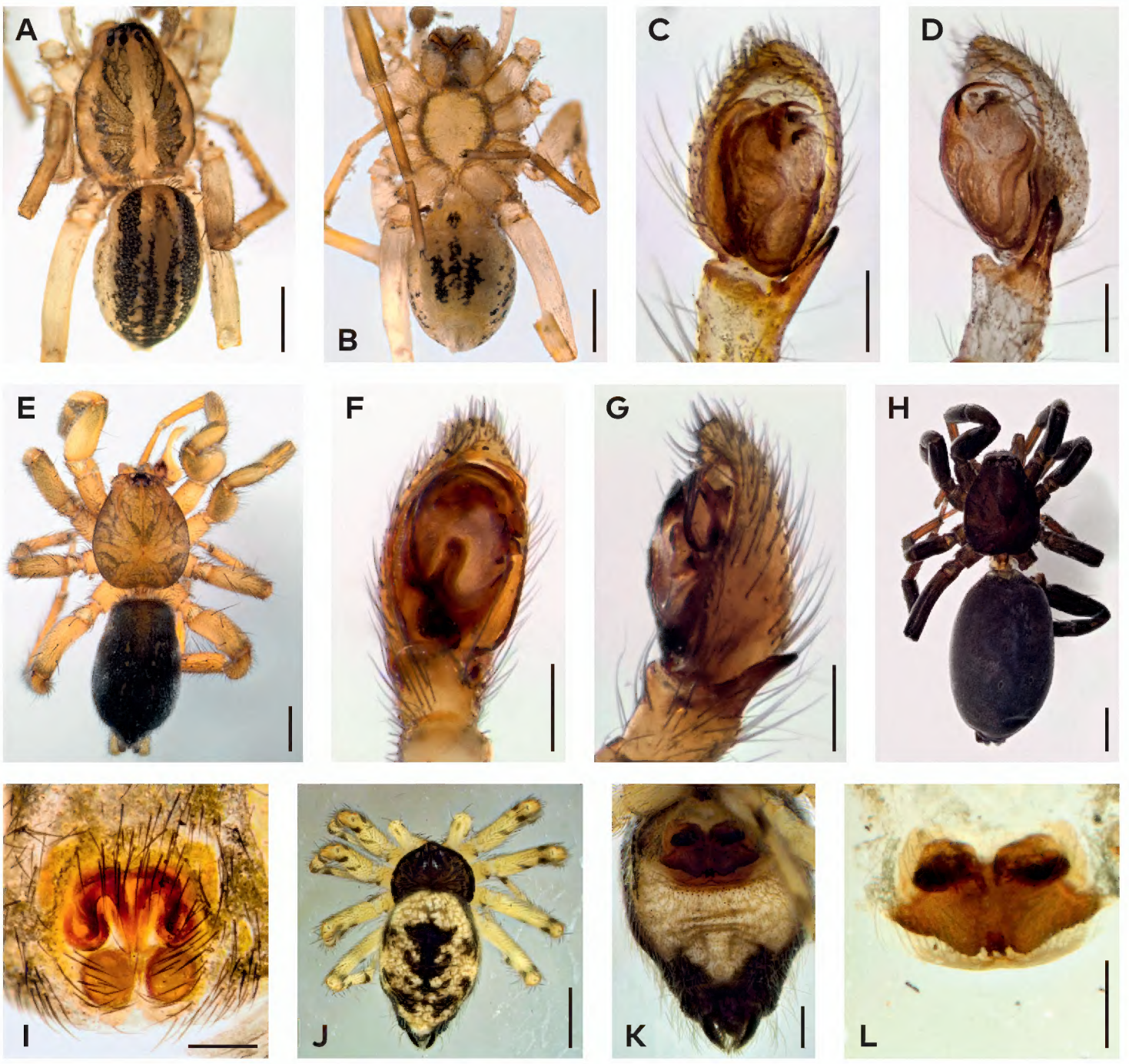

Figure 2. Habitus and copulatory organs of spider species *Liocranoeca spasskyi* (**A–D**), *Marinarozelotes manytchensis* male (**E–G**) and female (**H–I**), *Oecobius rhodiensis* (**J–L**). Scale bars: **A**, **B**, **E**, **H**, **J** = 1mm; **C**, **D**, **F**, **G**, **I**, **K**, **L** = 0.2mm.

(L.) Nevski and *Achillea setacea* Waldst. et Kit. The following species are registered in smaller numbers or solitarily – *Achillea millefolium* L., *Agrimonia eupatoria* L., *Ballota nigra* L., *Daucus carota* L., *Euphorbia cyparissias* L., *Galium intermedium* Schult., *Geum urbanum* L., *Lamium purpureum* L., *Medicago lupulina* L., *Muscari neglectum* Guss., *Pilosella piloselloides* (Vill.) Sojak, *Plantago lanceolata* L., *Tragopogon dubius* Scop., *Taraxacum officinale* Wigg., *Verbascum lychnitis* L., *Viola suavis* M.Bieb. Among the ruderal species registered were the following: *Galium aparine* L., *Phalacroloma annuum* (L.) Dumort. and *Stellaria media* (L.) Vill.

Oecobiidae Blackwall, 1862

Oecobius rhodiensis Kritscher, 1966

Figure: 2 J–L

Material examined: Republic of Moldova, Chisinau Municipality, Chisinau, Institute of Zoology, Moldova State University; room 116, on and around a window frame, collected on 20 July 2023, 1 and 26 August 2023; 3 ♀.

Distribution: Previously recorded from Greece (Rhodes, Naxos, Creta) (Kritscher 1966; Wunderlich 1995; Bosmans et al. 2013), Turkey (Demir et al. 2009), Ukraine (Donetsk, Odesa) (Prokopenko 2021; Deli et al. 2023).

The new records of *Liocranoeca spasskyi*, *Marinarozelotes manytchensis* and *Oecobius rhodiensis* expand the known distribution ranges of these rare spider species from Eastern Europe and provide additional data on their habitats.

L. spasskyi remains a poorly known species with limited biological data. Its recent detection near Plovdiv, Bulgaria (Naumova and Genchev 2022), together with the new finding from Moldova, confirms its presence in southeastern Europe and suggests a broader but still underexplored range in this region. The ecological conditions of the Moldovan site, a moist meadow vegetation at a lakeshore, align with previous assumptions that the species prefers humid microhabitats within otherwise arid steppe landscapes (Ponomarev 2008; Ponomarev et al. 2018).

M. manytchensis was previously considered restricted to southern Russia and parts of Ukraine, with its westernmost record from Nove village in the Zaporizhzhia region (Polchaninova et al. 2021). The new record from Chisinau, over 530 km west of that locality, significantly extends the known distribution of the species to the west. The finding suggests the possibility of a broader range across the steppe and forest-steppe regions of Eastern Europe. The present study provides detailed meteorological data associated with the species' habitat, offering a valuable baseline for future ecological assessments and biodiversity monitoring.

The detection of *O. rhodiensis* represents the first record of the family Oecobiidae in the Republic of Moldova, underscoring the need for further surveys of synanthropic and cryptic species. While more commonly encountered species such as *Oecobius maculatus* Simon, 1870, and *Oecobius navus* Blackwall, 1859 are widespread in Europe and often inhabit anthropogenic environments, *O. rhodiensis* remains rare and is typically recorded in institutional or educational buildings (Demir et al. 2009;

Prokopenko 2021). Its occurrence in Moldova may reflect accidental introduction by human activity and the underrepresentation of urban arthropod fauna in regional surveys.

The phenology of the studied species was analyzed by integrating published records with new data from Moldova, as summarized in the Table 2. For *L. spasskyi*, male activity spans April to July and female activity from May to July and September, based on records from Russia, Ukraine, and Bulgaria (Ponomarev et al. 2011; Ponomarev and Khnykin 2013; Ponomarev et al. 2016, 2017, 2018, 2021; Naumova and Genchev 2022). For *M. manytchensis*, males are active from May to July and females from May to August, as reported in Russia and Ukraine (Ponomarev et al. 2016, 2019; Esyunin and Tuneva 2020; Ponomarev and Shmatko 2020; Polchaninova et al. 2021). For *O. rhodiensis*, male activity occurs from May to July and female activity from May to August, documented in Greece, Turkey, and Ukraine (Kritscher

Table 2. Phenology of *L. spasskyi, M. manytchensis, O. rodiensis*, based on new and published data.

	April	**May**	**June**	**July**	**August**	**September**
			L. spasskyi			
Male	Stavropol (Russia)	Bulgaria Krasnodar, Rostov (Russia)	Bulgaria; Material from Moldova; Astrakhan, Dagestan, North Ossetia–Alania Rostov, Volgograd (Russia)	Astrakhan (Russia)		
Female		Bulgaria; Rostov, Volgograd (Russia)	Bulgaria Astrakhan, Belgorod, Rostov, Volgograd (Russia)	Astrakhan, Rostov, Volgograd (Russia)		Rostov (Russia)
			M. manytchensis			
Male		Material from Moldova, Rostov (Russia)	Dagestan, Orenburg, Rostov (Russia); Ukraine	Stavropol (Russia)		
Female		Rostov, Stavropol (Russia)	Orenburg, Rostov, Stavropol (Russia); Ukraine	Material from Moldova; Stavropol (Russia)	Orenburg, Stavropol (Russia)	
			O. rhodiensis			
Male		Greece; Donetsk (Ukraine)	Odesa (Ukraine)	Turkey; Odesa (Ukraine)		
Female		Greece; Donetsk (Ukraine)	Odesa (Ukraine)	Material from Moldova; Turkey; Odesa (Ukraine)	Material from Moldova; Odesa (Ukraine)	

1966; Wunderlich 1995; Demir et al. 2009; Bosmans et al. 2013; Prokopenko 2021; Deli et al. 2023).

This study highlights Moldova's role as a biogeographic corridor connecting steppe, sub-Mediterranean, and Black Sea faunal elements. By expanding the known distribution ranges of *L. spasskyi*, *M. manytchensis*, and *O. rhodiensis* and providing ecological data from their local habitats, these findings establish a baseline for future biogeographic and ecological research in southeastern Europe.

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References

Bosmans R, Van Keer J, Russell-Smith A, Kronestedt T, Alderweireldt M, Bosselaers J, De Koninck H (2013) Spiders of Crete (Araneae). A catalogue of all currently known species from the Greek island of Crete. Nieuwsbrief van de Belgische Arachnologische Vereniging 28(1): 1–147.

Deli OF, Trach VA, Pidhorna SY, Chernychko KY (2023) The finding of *Oecobius rhodiensis* Kritscher, 1966 (Araneae: Oecobiidae) of Odesa region. Odesa National University Herald Biology 28: 89–96.

Demir H, Seyyar O, Aktaş M (2009) Contributions to the knowledge of the genus *Oecobius* Lucas, 1846 from Turkey (Araneae: Oecobiidae). Turkish Journal of Zoology 33: 457–462.

Esyunin SL, Tuneva TK (2020) A review of the family Gnaphosidae in the fauna of the Urals (Aranei), 6. Taxonomic remarks and new records, with description of a new species. Arthropoda Selecta 29: 103–120.

Kritscher E (1966) Die paläarktischen Arten der Gattung *Oecobius* (Aran., Oecobiidae). Annalen des Naturhistorischen Museums in Wien 69: 285–295. [in German]

Naumova M, Genchev V (2022) Review of the spiders, pseudoscorpions and scorpions in the region of Plovdiv, S Bulgaria (Arachnida: Araneae, Pseudoscorpiones & Scorpiones). In: Mollov I, Georgiev D, Todorov O (Eds) Faunistic diversity of the city of Plovdiv (Bulgaria),

Vol. 2 – Vertebrates & Invertebrates. Bulletin of the Natural History Museum, Plovdiv, Supplement 2: 83–110.

Nentwig W, Blick T, Bosmans R, Hänggi A, Kropf C, Stäubli A (2025) Spiders of Europe. Version 07.2025. Available online at https://www.araneae.nmbe.ch [accessed on 30.07.2025]. doi: 10.24436/1

Polchaninova N, Gnelitsa V, Terekhova V, Iosypchuk A (2021) New and rare spider species (Arachnida, Araneae) from Ukraine. Zoodiversity 55: 95–112.

Polchaninova NY, Prokopenko EV (2017) Catalogue of the spiders (Arachnida, Araneae) of Left-Bank Ukraine. Addendum I. 2013–2016. In: Mikhailov KG (Ed.) Supplement 4. KMK Scientific Press, Moscow, 115 pp.

Ponomarev AV (2007) New spiders (Aranei) from the south-east of Europe. Caucasian Entomological Bulletin 3: 3–7.

Ponomarev AV (2022) Spiders (Arachnida: Araneae) of the southeast of the Russian Plain: catalogue, the fauna specific features. SSC RAS Publishers, Rostov-on-Don, 640 pp. [in Russian]

Ponomarev AV, Abdurakhmanov GM, Alieva SV, Dvadnenko KV (2011) Spiders (Arachnida: Aranei) of coastal and island territories of northern Dagestan. South of Russia: Ecology, Development 4: 126–143. [in Russian]

Ponomarev AV, Alexeev SK, Komarov YE, Shmatko VY (2021) Spiders (Aranei) of the Terek River valley in the Mozdok district, Republic of North Ossetia-Alania, Russia. Caucasian Entomological Bulletin 17(2): 351–374. doi: 10.23885/181433262021172-351374 [in Russian]

Ponomarev AV, Alekseev SK, Kozminykh VO, Shmatko VY (2017) Spiders (Arachnida: Aranei) of Stavropol Province, Russia. Arthropoda Selecta 26(2): 155–173.

Ponomarev AV, Aliev MA, Khabiev GN, Shmatko VY (2019) New data on the spider fauna (Aranei) of Dagestan, Russia. Arthropoda Selecta 28(2): 309–334.

Ponomarev AV, Bastaev VV, Dubovikoff DA, Shmatko VY (2018) On a small collection of spiders (Aranei) from the Astrakhan Reserve (Russia). Arthropoda Selecta 27: 244–256.

Ponomarev AV, Belosludtsev EA, Dvadnenko KV (2008) Spiders (Aranei) of the lower Volga region (Astrakhan and Volgograd areas of Russia) with the description of new taxa. Caucasian Entomological Bulletin 4: 163–185.

Ponomarev AV, Khnykin AS (2013) Spiders (Aranei) of Volgograd and its environs. South of Russia: Ecology, Development 4: 109–136. [in Russian]

Ponomarev AV, Prokopenko EV, Ivliev PP, Shmatko VY (2016) Spiders (Aranei) of the coast of the Taganrog Gulf of the Azov Sea and the Don delta. Caucasian Entomological Bulletin 12(1): 3–28. [in Russian]

Ponomarev AV, Shmatko VY (2020) A review of spiders of the genera *Trachyzeloes* [sic] Lohmander, 1944 and *Marinarozelotes* Ponomarev, gen. n. (Aranei: Gnaphosidae) from the southeast of the Russian Plain and the Caucasus. Caucasian Entomological Bulletin 16: 125–139.

Ponomarev AV, Shokhin IV, Terskov EN, Shmatko VY (2018) Preliminary data on the spider fauna (Aranei) of Taman Peninsula and Tuzla Island (Russia). Caucasian Entomological Bulletin 14(2): 121–129. [in Russian]

Ponomarev AV, Tsvetkov A (2006) New and rare spiders of family Gnaphosidae (Aranei) from a southeast of Europe. Caucasian Entomological Bulletin 2: 5–13.

Prokopenko EV (2021) The northernmost record of *Oecobius rhodiensis* Kritscher, 1966 (Aranei: Oecobiidae). Caucasian Entomological Bulletin 17: 333–335.

Vasiliev AI, Mikhailov KG (2023) Annotated checklist of spiders (Araneae) of the Republic of Moldova. Invertebrate Zoology 20: 307–342.

World Spider Catalog (2025). World Spider Catalog. Version 26. Natural History Museum Bern, online at http://wsc.nmbe.ch, accessed on 30.07.2025. doi: 10.24436/2

Wunderlich J (1995) Zu Taxonomie und Biogeographie der Arten der Gattung *Oecobius* Lucas 1846, mit Neubeschreibungen aus der Mediterraneis und von der Arabischen Halbinsel (Arachnida: Araneae: Oecobiidae). Beiträge zur Araneologie 4(1994): 585–608. [in German]

Wunderlich J (1999) *Liocranoeca* – eine bisher unbekannte Gattung der Feldspinnen aus Europa und Nordamerika (Arachnida: Araneae: Liocranidae). Entomologische Zeitschrift 109(2): 67–70. [in German]